AMENDMENTS TO THE APPLICATION

Claim Amendments

1. (Cancelled)

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

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57. (Previously Presented) An Apparatus as recited in Claim 103, in which said direct communication service is conducted using frequency bands 11 and 12.

58. (Previously Presented) An Apparatus as recited in Claim 103, in which said direct communication service is conducted in orbit around the Earth.

59. (Previously Presented) An Apparatus as recited in Claim 103, in which said direct communication service is conducted beyond Earth orbit.

60. (Previously Presented) An Apparatus as recited in Claim 103, in which said direct communication service is conducted using electromagnetic frequencies.

61. (Previously Presented) An Apparatus as recited in Claim 103, in which said direct communication service is conducted using optical frequencies.

62. (Previously Presented) An Apparatus as recited in Claim 103, in which said direct communication service is conducted at extremely high output power compared to conventional satellite operations.

63. (Previously Presented) An Apparatus as recited in Claim 103, in which said direct communication service is conducted using a network.

64. (Cancelled)

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99. (Cancelled)

100. (Cancelled)

101. (Cancelled)

102. (Cancelled)

103. (Previously Presented) An apparatus comprising:

a boom means (11) for providing support;

a nuclear reactor means (19) for generating heat; said nuclear reactor means (19) being coupled to said boom means (11);

a payload protection means (20) for protecting a payload (15) from radiation; said payload protection means (20) being coupled to said nuclear reactor means (19);

a radiator means (16) for dissipating heat; said radiator means (16) being coupled to said nuclear reactor means (19);

an electric propulsion means (12) for supplying thrust; said electric propulsion means (12) being coupled to said nuclear reactor means (19); and

a propellant tank means (13) for storing fuel for said electric propulsion means (12); said propellant tank means (13) being coupled to said boom means (11);

said apparatus being positioned in orbit to provide a high-bandwidth, direct communication service to a terminal which is not in Earth orbit, and which does not require an intermediate satellite relay.

104. (Previously Presented) An apparatus as recited in Claim 103, in which said direct communication services are enabled by high power generating capacity.

105. (Previously Presented) An apparatus as recited in Claim 103, in which said direct communication system is powered by very high levels of electrical power compared to conventional satellites.

106. (Previously Presented) An apparatus as recited in Claim 103, in which said direct communication system is conducted using an array of antennas.

107. (Previously Presented) An apparatus as recited in Claim 103, in which direct broadcast signals at frequencies of 100 GHz and beyond

108. (Previously Presented) An apparatus as recited in Claim 103, further comprising a direct broadcast system; said direct broadcast system including a beam-forming array to penetrate layers of the atmosphere which absorb and scatter conventional, lower power signals.

109. (Previously Presented) An apparatus as recited in Claim 103, further comprising a steerable antenna for penetrating layers of the atmosphere which absorb and scatter conventional, lower power signals.

110. (Previously Presented) An apparatus as recited in Claim 103, in which said direct communication system provides a wide variety of services that offer direct transmissions among said apparatus positioned in orbit and a plurality of terrestrial terminals.

111. (Previously Presented) An apparatus as recited in Claim 103, in which said direct communication service provides a one way transmission between said apparatus positioned in orbit and a terminal on the Earth's surface.

112. (Previously Presented) An apparatus as recited in Claim 103, in which said direct communication service provides a one way transmission between said apparatus positioned in orbit and a terminal near the Earth's surface.

113. (Previously Presented) An apparatus as recited in Claim 103, in which said direct communication service provides two way emanations between said apparatus positioned in orbit and a terminal on the Earth's surface.

114. (Previously Presented) An apparatus as recited in Claim 103, in which said direct communication service provides any two way emanations between said apparatus positioned in orbit and a terminal near the Earth's surface.

115. (Previously Presented) An apparatus as recited in Claim 103, in which said direct communication service provides two way emanations between said apparatus positioned in orbit and another satellite.

116. (Previously Presented) An apparatus as recited in Claim 103, in which said direct communication service provides high-bandwidth transmissions.